

The Niagara River Toxics Management Plan: An Early Watershed-Wide Bi-national Approach for Achieving Significant Environmental Goals

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In the late 1980s, mutual concern over the Niagara River's high levels of toxic chemicals resulted in a decision by four Canadian and U.S. environmental agencies (the "Four Parties") to enter into a landmark agreement to work cooperatively to reduce toxic inputs to the river. The Niagara River Toxics Management Plan (NRTMP) was the program designed to achieve these reductions. This cooperative effort, based on a watershed-wide approach and unencumbered by geopolitical boundaries, has permitted the prioritization of pollutant sources and their remediation; reduced the occurrence of duplicated efforts saving both time and resources; and achieved significant progress toward its environmental goals.

Under the NRTMP, 18 toxics were prioritized for reduction, 10 of which were designated for 50% reduction within 10 years. To help achieve these reductions, remediation of the area's hazardous waste sites were an early priority. After an extensive study of more than 200 U.S. sites, the U.S. Environmental Protection Agency (U.S. EPA) and New York State Department of Environmental Conservation (NYS DEC) prioritized the remediation of 26 sites that were estimated to contribute 99% of the toxic loading from all U.S. sites along the river. Water quality and biomonitoring programs were also put in place to track progress and determine the success of remedial activities.

In the almost 20 years since its inception, the NRTMP has made significant progress toward achieving its environmental goals. Twenty of the 26 priority waste sites have been remediated, reducing potential contamination entering the river from U.S. sites by 93%, down from an estimated loading of ~700 lbs/day to less than 50. As a result of these efforts and others, Environment Canada's (EC) long-term upstream/downstream water monitoring program indicates substantial reductions in the concentration and loads of toxics, with reductions of 70% or more observed for most priority toxics. In addition, three long-term biomonitoring programs, conducted by Ontario's Ministry of the Environment and the NYS DEC, have proven to be effective tools to evaluate the success of specific remedial efforts and identify remaining toxic hot spots. Data from these programs corroborate the improvements observed in water quality.

Despite the success, to date, more work remains. Recently adopted stricter Agency criteria have led to increases in exceedences despite improving water quality. With the remediation of the

priority waste sites nearing completion, many Four Party activities now focus on identifying and remediating the remaining, often less obvious, sources of contamination, including upstream sources.